
Coordinated Call-Back Queuing

The Coordinated Call-Back Queuing (CCBQ) feature enables stations at a Meridian 1 Main to be offered CBQ when network calls are blocked at the serving Meridian 1 Node. When facilities become available at the Node, the call originator at the Main is alerted by a call-back from the Node. (This feature requires that the Main and the associated Node be equipped with the network signaling feature).

Coordinated Call-Back Queuing eligibility

When a station at a Main originates a network call through a Node, the NCOS of the call originator, the call type, and whether the station is allowed access to the RGA feature is transmitted to the Node. (If an authcode is entered at the Main prior to dialing a network call, the NCOS associated with the authcode is transmitted to the Node.) When received by the Node, this NCOS is used to determine Coordinated Call-Back Queuing (CCBQ) eligibility and is used for the duration of the call, unless further modified by the Authcode Conditionally Last feature [see *Basic and Network Authorization Code description* (553-2751-103)].

The CBQ eligibility tests are performed. In addition, a check is made to ensure that the incoming trunk group from the Main is defined (at the Node) to permit CBQ and that the type allows CBQ. CCBQ is offered to the user at the Main if the eligibility tests are successful. If the tests are unsuccessful, standard call blocking is applied to the call.

As for stations at a Node, the call originator at a Main can invoke RGA upon receipt of ERWT if the originator's NCOS is defined at the Main as CBQ(a) eligible.

The Coordinated Call-Back Queuing offer

The CCBQ offer and acceptance sequences are identical to those for stations at the Node (the SBQ offer). The optional recorded announcement and overflow tone are provided by the Node. The offer cannot be accepted until the recorded announcement is completed and the offer tone is started. In addition, after the recorded announcement is provided, the Node transmits a signal to the Main. This signal indicates that the call is in a state that allows RGA.

When the call originator at the Main activates RGA, the Main assigns a unique “queue identification” number to the call. This number is transmitted to the Node to indicate CCBQ acceptance. At the Main, the call is placed in a holding queue. At the Node, the call (together with the queue identification number) is placed into the trunk queue. The Main-to-Node tie trunk is released.

Coordinated Call-Back Queuing call-back

When an outgoing trunk is seized by the Node for a CCBQ call, slow outpulsing is started to hold the trunk while a call-back is made to the call originator at the Main. The Node seizes an available tie trunk to the Main and transmits the “queue identification” number of the call to the Main. The Main then initiates a call-back to the call originator. Call-back presentation to the call originator is the same as for standard RGA (a CBQ call-back).

Note: If no tie trunks to the Main are available, the outgoing trunk is released and can be offered another call. The CCBQ call retains its position in the queue but is not offered another trunk until a tie trunk to the Main becomes available.

When the call originator at the Main accepts the CCBQ call-back, answer supervision is sent from the Main to the Node. The Node then completes the call.

If the call originator is equipped with a 500/2500 set and is engaged in a call when the Node initiates a CCBQ call-back, a signal is transmitted from the Main to the Node. The Node releases the outgoing trunk and places the CCBQ call into a holding queue for 5 min. No attempt is made to seize another outgoing trunk for the call until the holding time expires. This process occurs only once.

If the originating station is still busy after the holding time has expired, the CCBQ is canceled automatically at the Node. No indication of the CCBQ cancellation is given to the call originator.

To prevent the CCBQ call from remaining indefinitely in the holding queue at the Main, the Main sets a time limit of one hour for CCBQ calls. When this time limit expires, the CCBQ call is canceled automatically. (CCBQ call-back to a busy station is the same as for normal RGA).

The call originator at the Main can cancel the CCBQ call at any time. The Node is not aware of the cancellation until the CCBQ call-back is attempted.

Coordinated Call-Back Queuing traffic measurements

Traffic measurement data that is related to usage of the CCBQ feature is accumulated at the Node. The data is reflected in the Incoming Trunk Group measurements (TFN003). The measurements reflect, on an incoming trunk-group basis, the number of CCBQ offers, the number of CCBQ offers that are accepted, the number of CCBQ call-backs that are not answered, and CCBQ cancellations. [Refer to *Traffic measurement formats and output* (553-2001-450)].

Feature interactions

The CCBQ feature interacts with the following Meridian 1 features.

Initialization

If the Main initializes while calls are queued at the Node, CCBQ call-backs from the Node are not answered because the initialization has cleared the holding queue at the Main. The Node treats these calls as call-back-no-answer calls and cancels the CCBQ automatically. If the Node initializes, CCBQ calls in the trunk queue are lost. The Main cannot detect this situation. To prevent calls from remaining indefinitely in the holding queue at the Main, the Main sets a time limit of one hour for CCBQ calls. If a call-back from the Node is not received within one hour, the Main cancels the CCBQ calls automatically.

Attendant functions

Attendants at a Main are not offered CCBQ. Attendant Barge-In on trunks involved in CCBQ operations results in cancellation of the CCBQ call.

Automatic Identification of Outward Dialing and Automatic Number Identification

Automatic Identification of Outward Dialing (AIOD) and Automatic Number Identification (ANI) facilities can be used to complete CCBQ calls from a Node. The outgoing toll call is billed to the access tie trunk rather than to the station at the Main.

Coordinated Dialing Plan

If CCBQ is offered to a Coordinated Dialing Plan (CDP) call as a result of trunk blocking at the Node, the optional recorded announcement is not given before the CCBQ offer tone.

Call Transfer and Conference

Stations at a Main can be offered CCBQ when initiating transfer or conference calls. CCBQ is not offered to 500/2500 stations performing these operations.

Feature limitations

A station at a Main is allowed only 10 to 12 seconds to activate RGA after the CCBQ offer (or ERWT) rather than the 30 seconds allowed for stations at the Node. Accordingly, the time interval of the recorded announcement (if provided) must be properly engineered to ensure that the station at the Main has time to activate CCBQ when it is offered.

The time available to answer a CCBQ call-back at stations at a Main is two to three times less than the time available to stations at the Node, due to the time required for access-trunk seizure and signaling.

Tie trunk groups that are used to provide CCBQ to a Main cannot be arranged for loop-start dial-repeating signaling and cannot have joint far-end disconnect control, as these arrangements do not allow the call to be disconnected after a CCBQ call-back.

Tones and recorded announcements used for CCBQ to users at a Main are provided by the Node. Traffic loads imposed on these facilities at the Node must be considered when Nodes are being engineered.